

REMARKS

Claims 1-7 are pending in the present application. Claims 1-7 have been amended. New claims 8-10 have been added. No new matter has been added.

Applicants' invention, as presently claimed, is directed to a method and system "for processing object-oriented image data, wherein object-oriented image data comprises image data pertaining to an image object". Applicants' invention takes a composite image, which has been broken into its constituent image objects. Then a first parser circuit parses "the object-oriented image data into non-neutral object-oriented image data and neutral object-oriented image data". A second parser circuit parses "the neutral object-oriented image data into black object-oriented image data, grey object-oriented image data, and white object-oriented image data". This enables the neutral object-oriented image data to be processed by "a neutral color processing circuit for processing the black object-oriented image data, the grey object-oriented image data, and the white object-oriented image data, whereby the image object's neutral object-oriented image data is processed separately and may be rendered differently from the object's non-neutral object-oriented image data." The invention enables the different rendering requirements of the different image object types (see Table 1 of the specification) to be processed differently.

Claims 1 and 3 have been rejected under 35 U.S.C. §103 as being unpatentable over Pakenham et al. and Matsuwana. The Examiner stated that Pakenham teaches a system for processing object (124 and 126) oriented image data comprises a first parser circuit (122) to parse the object oriented image data into non-neutral image data (124) and neutral image data (126), which are subjected to further image processing. The Examiner cited Matsuwana for teaching processing neutral image data using a parser circuit (11) to parse the neutral image data into black image data (value 16), grey image data (values 2-15) and white image data (value 0) and a neutral color processing circuit (14) to process only the black, grey and white image data (Fig. 7). The Examiner further stated it would have been obvious to modify the system of Pakenham et al. by using a second parser circuit to parse the neutral image data into black, grey and white and a neutral color processing circuit as taught by Matsuwana. Applicants respectfully disagree.

Neither Pakenham et al., nor Matsuwana teach or suggest an object-oriented rendering system. Pakenham et al. at col. 4, lines 54-62 states: "Next the image post-processor 120 uses

the image data in the color buffer 118 and the monochrome buffer 116 to generate either 1 or 2 views of the window scanned by the scanner as specified by the host computer. If two views are generated, the image post-processor will send the two views to the host computer in an interleaved data stream 136. When the host computer receives the two views of the scan window, a data parser 122 will parse the data stream 136 into a color image 124 and a monochrome image 126." Pakenham et al. does not teach or suggest a system which includes a first parser circuit for parsing the object-oriented image data into non-neutral object-oriented image data and neutral object-oriented image data.

Matsuwnana teaches an image processing system and method for restoring a tonal picture from binary image data. Matsuwnana does not teach an object-oriented image rendering system. Matsuwnana does not teach or suggest a parser circuit for parsing the neutral object-oriented image data into black object-oriented image data, grey object-oriented image data, and white object-oriented image data. All neutral image data in Matsuwnana is processed in the same manner, regardless of the type of object that a particular segment of data may pertain.

Claim 2 has been rejected under 35 U.S.C. §103) as being unpatentable over Pakenham et al. and Matsuwnana and further in view of Robinson. Robinson was cited for teaching a separate processing circuit for each of the black, grey and white image data. Nothing in Robinson overcomes the lack of teachings in either Pakenham et al. or Matsuwnana with respect to object-oriented rendering systems.

Claim 4 has been rejected under 35 U.S.C. §103) as being unpatentable over Eschbach and Tai. The Examiner stated that Eschbach teaches a method (fig. 1 and col. 5, lines 47-49) of processing object oriented image data (see black pixel object, gray pixel object, white pixel object of fig. 5 and color image object of abstract) including the steps of parsing a neutral image data into black image data, gray image data and white image data; processing the black, gray and white image data. The Examiner further stated that Eschbach also teaches that an image can be divided into color image data (non-neutral image data) and black and white image data (neutral image data) and that color data and black and white data can be processed independently. The Examiner further stated it would have been obvious to one skilled in the art that Eschbach teaches parsing object oriented image data into non-neutral image data and neutral image data such that they could be processed independently. The Examiner stated that Tai teaches processing a processed black image

data, a processed white image data, a processed gray image data and a color image data (non-neutral image data) together. The Examiner further stated it would have been obvious to modify the image processing of Eschbach as taught by Tai for the purpose of printing a recombined image of the neutral and non-neutral image. Applicants respectfully disagree.

Neither Eschbach nor Tai teach an object-oriented image processing and rendering system. Eschbach teaches a method for making image conversions with error diffusion. Eschbach is concerned with the problem of taking a scanned image of one size and resolution and ensuring that the enlarged image has the same resolution. A primary concern for Eschbach is maintaining density in any given area of coverage with pixel doubling or similar methods. Tai teaches a method and apparatus for making black and white copies using a color scanner. Nothing in either Eschbach or Tai teaches or suggests method for processing object oriented image data, wherein object-oriented image data comprises image data pertaining to an image object,, comprising: (a) parsing the object oriented image data into non-neutral object-oriented image data and object-oriented neutral image data; (b) parsing the neutral object-oriented image data into black object-oriented image data, grey object-oriented image data, and object-oriented white image data; (c) processing the black object-oriented image data, the object-oriented grey image data, and the white object-oriented image data separately from the non-neutral object-oriented image data; and (d) processing the processed object-oriented black image data, the processed object-oriented grey image data, the processed object-oriented white image data, and the non-neutral object-oriented image data together, whereby the image object's neutral object-oriented image data may be rendered differently from the object's non-neutral object-oriented image data.

Claim 5 has been rejected under 35 U.S.C. §103) as being unpatentable over Eschbach and Tai and further in view of Meir et al. The Examiner cited Meir et al. for teaching processing an image according to a selected feature set. Nothing in Meir et al. overcomes the lack of teachings in either Eschbach or Tai with respect to object-oriented rendering systems.

Claims 6 and 7 have been rejected under 35 U.S.C. §103) as being unpatentable over Tai, Pakenham et al. and Robinson. Nothing in any of Tai, Pakenham et al. and Robinson, whether taken alone or in combination teach or suggest an object oriented image processing and rendering

system, as presently claimed, for processing and rendering of object-oriented neutral image data separately from the object-oriented non-neutral image data.

Reconsideration of this application and allowance thereof are earnestly solicited. In the event the Examiner considers a personal contact advantageous to the disposition of this case, the Examiner is requested to call the undersigned Attorney for Applicants, Jeannette Walder.

Respectfully submitted,



Jeannette M. Walder  
Attorney For Applicants  
Registration No. 30,698  
Telephone No. 310 333-3660

El Segundo, California  
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## VERSION WITH MARKINGS TO SHOW CHANGES MADE:

IN THE CLAIMS:

1. (Twice Amended) A system for processing object-oriented image data, wherein object-oriented image data comprises image data pertaining to an image object, comprising:

a first parser circuit ~~to parse~~ for parsing the ~~object~~ object-oriented image data into non-neutral object-oriented image data and neutral object-oriented image data;

a second parser circuit ~~to parse~~ for parsing the neutral object-oriented image data into black object-oriented image data, grey object-oriented image data, and white object-oriented image data; and

a neutral color processing circuit ~~to process~~ for processing only the black object-oriented image data, the grey object-oriented image data, and the white object-oriented image data, whereby the image object's neutral object-oriented image data is processed separately and may be rendered differently from the object's non-neutral object-oriented image data.

2. (Twice Amended) The system as claimed in claim 1, wherein said neutral processing circuit comprises:

a black processing circuit to process only the black object-oriented image data;

a grey processing circuit to process only the grey object-oriented image data; and

a white processing circuit to process only the white object-oriented image data.

3. (Twice Amended) The system as claimed in claim 1, wherein said neutral processing circuit processes only the black, grey, and white object-oriented image data according to a selected feature set.

4. (Twice Amended) A method for processing object oriented image data, wherein object-oriented image data comprises image data pertaining to an image object, comprising ~~the steps of~~:

(a) parsing the object oriented image data into non-neutral object-oriented image data and object-oriented neutral image data;

(b) parsing the neutral object-oriented image data into black object-oriented image data, grey object-oriented image data, and object-oriented white image data;

(c) processing the black object-oriented image data, the object-oriented grey image data, and the white object-oriented image data separately from the non-neutral object-oriented image data; and

(d) processing the processed object-oriented black image data, the processed object-oriented grey image data, the processed object-oriented white image data, and the non-neutral object-oriented image data together, whereby the image object's neutral object-oriented image data may be rendered differently from the object's non-neutral object-oriented image data.

5. (Twice Amended) The method as claimed in claim 4, wherein said step (c) processes only the black, grey, and white image data according to a selected feature set.

6. (Twice Amended) An object-oriented image processing system, ~~system for processing object-oriented image data~~, comprising:

a circuit for parsing composite image data into object-oriented image object data, wherein object-oriented image data comprises image data pertaining to an image object;

parsing means a parsing circuit for parsing the object oriented image data into non-neutral object-oriented image data and neutral object-oriented image data;

a neutral rendering transform means circuit for transforming a color and colorspace of only the neutral object-oriented image data; and

an image processing means circuit for processing the transformed neutral image object-oriented data and the parsed non-neutral image object-oriented data together, whereby the image object's neutral object-oriented image data may be rendered differently from the object's non-neutral object-oriented image data.

7. (Twice Amended) The system as claimed in claim 6, wherein said neutral rendering transform means comprises:

neutral parsing means for parsing the neutral image object-oriented data into black object-oriented image data, grey object-oriented image data, and white object-oriented image data; and

neutral image processing means for processing only the black image object-oriented data, the grey object-oriented image data, and the white object-oriented image data.

Claim 8 is a new claim.

Claim 9 is a new claim.

Claim 10 is a new claim.